

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A routing control method of a local area network (LAN) comprising one or more terminals having at least one LAN interface, one or more routers having a routing function performing a relay of data between the LAN and an external network, and a LAN medium connecting the terminals and routers mutually, the routing control method characterized in that comprising:

first multicasting, by a first router of the one or more routers, a routing stop message indicating the routing function of the first router is to stop or has stopped, if the multicasting of the routing stop message being responsive to the routing function of the router is being disabled or being predicted to become disabled; during execution of the routing function; the router multicasts a routing stop message notifying stop of its routing function;

after the first multicasting of the routing stop message, which second multicasting, by another of the routers, having received the routing stop message, multicasts a routing capability message;

wherein the another router is one of the routers that has received the routing stop message and the second multicasting is responsive to when the another router being capable of executing can execute the routing function, so that the routing function is switched to the another router.

2. (Currently Amended) A routing control method comprising:

a step that monitoring, by a first router, monitors the a status of a connection with an external network and when it is decided to cancel the connection is to be cancelled, transmitting, by the first router, transmits a message notifying a routing stop time, the as a time remaining until a stop of a routing function of the first router, to the nodes in the a local area network to which the first router is connected;

~~a step that~~receiving, by a second router, ~~receives~~ the routing stop message, and if the second router ~~can execute~~is capable of the routing function, ~~it~~transmitting, by the second router, ~~transmits~~ a routing capability message notifying ~~the~~a transition time, ~~as~~the a time required to enable the routing function of the first router, to the nodes in the local area network to which the second router is connected; and

~~a step that~~switching, by the nodes receiving the routing stop message and the routing capability message, ~~switch the a~~ destination of their transmissions from the first router ~~over to~~ the second router.

3. (Currently Amended) ~~A~~The routing control method according to claim 2, including:

~~a step that~~ if the first router receives a further message directed toward an external network after the stop of ~~its~~the router function of the first router, ~~stores~~storing, by the first router, the further message; and

~~a step that~~ after the first router receives the routing capability message from the second router, ~~transfers~~transferring, by the first router, the stored message to the second router.

4. (Currently Amended) ~~A~~The routing control method according to claim 3, wherein after the first router receives the routing capability message, ~~it~~transfertransferring, by the first router, the stored message to the second router after ~~the~~a routing capability time has lapsed.

5. (Currently Amended) ~~A~~The routing control method according to claim 2, ~~wherein~~further comprising:

deciding, by the second router, ~~decides~~ that the routing function of the first router has stopped if the routing stop time in the message received from the first router is equal to or smaller than a predetermined time.

6. (Currently Amended) A router comprising:

a stop message receiving section for receiving a routing stop message ~~giving~~indicating ~~the~~a routing stop time, as a the time remaining until a stop of a routing function, from another router which is executing the router function;

a master transition deciding section for deciding whether or not ~~at the router can~~ is capable of executing the routing function when the message receiving section receives ~~at the~~ routing stop message;

a transition time calculating section for calculating ~~the~~ a time ~~required to start the~~ routing function when the master transition deciding section decides that the routing function is capable of being ~~can be~~ executed;

a routing capability message generating section for generating a routing capability message notifying the ~~required time until~~ the routing function is enabled; and

a capability message transmitting section for transmitting the routing capability message to ~~the~~ nodes in ~~the~~ a local area network to which the router is connected.

7. (Currently Amended) ~~A~~The router according to claim 6, further including:

a status monitor section for monitoring ~~the~~ a status of a connection with an external network and deciding whether or not to cancel the connection;

a routing stop time calculating section for calculating the routing stop time remaining until ~~the routing stop of the routing function of the router~~ when the status monitor section decides to cancel the connection during execution of ~~at the~~ routing function;

a routing stop message generating section for generating ~~at the~~ routing stop message ~~giving~~ indicating the time calculated by the routing stop time calculating section; and

a stop message transmitting section for transmitting the routing stop message to ~~a one of the~~ nodes on ~~at the~~ local area network to which the router is connected.

8. (Currently Amended) ~~A~~The router according to claim 7, further including:

a buffer for storing a message to be sent to ~~the~~ an external network, received from the local area network to which the router is connected after the ~~stop of~~ routing function is stopped, and

a capability message receiving section for receiving ~~a~~ the routing capability message from the another router,

~~whereby~~wherein, when the routing capability message is received, the message stored in the buffer is transmitted to ~~the~~a further router which ~~was~~is ~~a~~the source of the message.

9. (Currently Amended) ~~A~~The router according to claim 7, wherein the routing stop message is a router advertisement message of ICMPv6 and has the routing stop time set in ~~the~~a lifetime field thereof, and the routing stop message is sent to the nodes in the ~~LAN~~local area network.

10. (Currently Amended) ~~A~~The router according to claim 7, wherein, if the routing stop time in the routing stop message received is equal to or smaller than a predetermined time, ~~it is decided that the router,~~ which ~~was~~is ~~the~~a source of the routing stop message, is under transition ~~into a~~to stop ~~of the~~of the routing function.

11. (Currently Amended) ~~A~~The router according to claim 7, wherein the routing capability message is a router advertisement message of ICMPv6 and the time ~~required until the routing function is enabled~~ is set in ~~the~~a reachable time field thereof, and the routing ~~capacity capability~~ message is sent to the nodes in the ~~LAN~~local area network.

12. (Currently Amended) A terminal comprising:

a terminal receiving section for receiving a routing stop message ~~giving~~indicating a routing stop time, ~~as the~~a time remaining until a stop of a routing function from a first router ~~now~~currently executing the routing function, and a routing capability message ~~giving~~indicating a routing capability time, ~~as a~~the time ~~required until the~~ routing function by a second router is enabled; and

a router switch section for switching a communication to be sent to an external network from the first router ~~over to~~ the second router by a timing depending upon the routing stop message and the routing capability message received by the terminal receiving section.

13. (Currently Amended) ~~A~~The terminal according to claim 12, wherein the switching by the router switch section ~~is done~~occurs after ~~the~~a lapse of the routing stop time and ~~at the~~a lapse of the routing capability time.